DOCUMENT RESUME

ED 161 138 EA 010 955

AUTHOR Watson, Karilee Kay
TITLE An Analysis of Selected Variables of Organizational Structure and Their Relationship to the Rate of Adoption of School Reorganization in Iowa School Districts from 1956-1962.
PUB DATE Jun 78
NOTE 12p.; Paper presented at the Canadian School Trustees' Association Congress on Education (1st, Toronto, Ontario, June 17-21, 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Adoption (Ideas); Comprehensive Districts; Educational Research; Elementary Secondary Education; Innovation; Organization; *Organizational Change; School Districts
IDENTIFIERS *Iowa

ABSTRACT

The relationship between organizational structure and the rate of adoption of school reorganization was investigated in this study. Subjects included 139 Iowa school districts that were implementing the 1953 Iowa School Reorganization Law. This law mandated the consolidation of districts into larger community school districts. Variables concerning school organization included organizational structure, size, complexity, formalization, and financial state. Analyses were conducted through the Pearson Product Moment Correlation Coefficient Test for intercorrelations and the stepwise forward regression technique. Data were taken from official records of the Iowa Department of Public Instruction. Findings indicate that rapid reorganization was correlated with larger enrollment in grades 10-12, lower enrollment in grades 1-3, and larger geographical area. Slower reorganization was correlated with fewer buildings, teachers, and students; and with larger amounts for salaries, instruction, transportation, plant operation, and general fund levy. The study suggests indicators for determining when reorganization of a system is a favorable option. (Author/JM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

- ED161138

An Analysis of Selected Variables of Organizational Structure And Their Relationship to the Rate of Adoption of School Reorganization in Iowa School Districts from 1956-1962

by

Dr. Karilee Kay Watson
Iowa State University
Ames, Iowa

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Karilee Kay Watson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

EA 010 955

An analysis of selected variables of organizational structure and their relationship to the rate of adoption of school reorganization in Iowa school districts from 1956-1962

Karilee Freeberg Watson

Under the supervision of Harold E. Dilts
From the Department of Professional Studies
Iowa State University

Purpose of the Study. This study analyzes the relationship that exists between the organizational structure of school districts that are the recipients of the innovation of school reorganization and the rate of adoption of school reorganization by those school districts.

Procedures. A stratified sample of 139 school districts in the state of Iowa was drawn for the study. A classification system was developed to group sub-variables of organizational structure into three primary categories of size, complexity, and formalization. Financial state, a fourth variable was also analyzed. The data derived from official records collected by the Iowa Department of Public Instruction. Rate of adoption of the innovation school reorganization was computed from the time of the state-mandated reorganization law to the time of the merger of two or more school districts. The Pearson Product Moment Correlation Coefficient was used to determine the relationship among sub-variables that constituted size, complexity, and formalization and the relationship among the sub-variables that comprised financial state. The stepwise forward regression technique was

used to determine if organizational structure, financial state, or both would predict the rate of adoption of school reorganization in the school districts of the sample.

Findings. There were no significant correlations between any of the sub-variables that constituted the variable size or any of the sub-variables that constituted the variable formalization. All of the sub-variables constituting complexity were significant ($p = .001$). Nine variables were used to measure financial state. Thirteen of the thirty-six intercorrelations were significant ($p = .001$). Rate of adoption was predicted by the sub-variables number of students 10-12 and number of students 1-3 at the .05 level of significance when organizational structure was analyzed. Rate of adoption was predicted by the sub-variables maintenance, number of students 10-12, number of students 1-3 at the .05 level of significance when both organizational structure and financial state of the school districts were analyzed.

Conclusions. The selected model for predicting the rate of adoption of school reorganization solely by organizational structure indicates the greater the enrollment in grades 10-12 and the lower the enrollment in grades 1-3 the more rapid the rate of adoption of school reorganization. The selected model for predicting the rate of adoption of school reorganization by organizational structure and financial state indicates the lower the expense of maintenance, the greater the enrollment in grades 10-12, and the lower the enrollment in grades 1-3, the more rapid the rate of adoption of school reorganization.

Most past research has treated educational innovation and the adoption of educational innovation as if it were accepted or resisted on an individual basis. It has ignored the organizational structure that may act to impede or facilitate the innovation's adoption. (Carlson, 1965.) In more recent research, according to Roger's (1971) the structure of a system, whatever that system may represent, can act to impede or facilitate new ideas through what are called system effects. The system effects, Rogers (1971) states, may do more to explain the adoption of an innovation than any other single factor. Rogers (1971) contends that an innovation that changes the structure of the system from what it has always been creates an increased resistance to the innovation and extends the rate of adoption of the innovation. Chin and Benne (1976) write that "focusing on the processes and instruments of change does not provide an adequate picture of the complications of change and changing." They state that research should be directed at the targets or systems to which change is directed.

It was this particular aspect, the organizational structure receiving the innovation, that was emphasized in this study. The innovation selected for the study was one that changed the entire structure of school systems in Iowa: school reorganization.

The fundamental task of the study was to analyze the relationship that existed between the organizational structure of the school districts receiving the innovation of school reorganization and the rate of adoption of school reorganization by the school districts. The analysis of the organizational strucutre was confined to those school districts in the state of Iowa that adopted school reorganization during the period of 1956 to 1962.

The objectives of the study were to:

1. identify the common characteristics of organizational structure in the school districts.
2. determine the degree to which each of the identified characteristics appeared in the organizational structure of the school districts.
3. determine whether or not there was a relationship between the organizational structure and the rate of adoption of school reorganization in the school districts.

The hypotheses tested in the study were:

1. There are no significant correlations between any of the sub-variables that constitute the variable size in this study.

2. There are no significant correlations between any of the sub-variables that constitute the variable complexity in this study.

3. There are no significant correlations between any of the sub-variables that constitute the variable formalization in this study.

4. The rate of adoption of school reorganization could not be predicted by the organizational structure of the school districts. (alpha=.05)

5. The rate of adoption of school reorganization cannot be predicted by the organizational structure and the financial state of the school districts. (alpha=.05)

The scope of investigation was the public reorganized high school district as defined by the constitution of the state of Iowa and the statutory legislation in Iowa. A stratified sample of reorganized high school districts was drawn from the total population of reorganized high school districts. Generalizations were made to the total population of reorganized school districts that reflected the same characteristics of the stratified sample, i.e., size and geographical region.

An operational definition was formulated for the term school reorganization. School reorganization means the restructuring of two or more consolidated school districts into one community school district. This definition reflects the dominant pattern of school reorganization in the state of Iowa.

Organizational structure, according to Champion (1975), is the description of the arrangement of formalized positions or departments in an organization. In this study, organizational structure consisted of the description of school district size, school district complexity, and school district formalization.

School district size was represented in this study by the sub-variables geographic dimension of the school district (area in square miles), number of busses and vans, and the average and total miles travelled by the vehicles of the school district. Champion (1975) claims that few attempts have been made to define the variable complexity precisely. Champion (1975) asserts that complexity can take a number of forms within an organization. Since this study deals with the organization of school districts, the areas of complexity that appeared most apparent were found in the student and instructional population and the arrangement of that population within the school districts. Complexity was represented in this study by the sub-variables number of teachers, number of children enrolled K-12, number of children enrolled 1-12, number of children K-3, number of children 1-3, number of children 4-6, number of children 7-9, number of children 10-12, number of children between the ages of 5-21, and number of c hildren between the ages of 7-16. Formalization, according to Champion (1975), is the degree to which roles, authority relations, communications, norms and sanctions or procedures are present in an organization. Formalization was represented in this study by the number of directors, type of district, number of grade levels, number of ungraded levels, kindergarten, separate organization junior high including ninth grade, junior-senior high 7-12, regular high school four years, and superintendency.

The definitions for innovation, adoption, and rate of adoption were taken from the Rogers' (1971) research in diffusion and adoption. Rogers defines innovation as an idea, thing, or practice perceived as being new or different to a client system. In this study school reorganization is the innovation that is seen as a new practice due to its perceived difference from consolidation. Adoption is defined by Rogers (1971) as the acceptance of an innovation. In this study adoption was considered complete when two or more separate school districts merged to become one community school district.

Rate of adoption, according to Rogers (1971), is the time that elapses between the initial development or the introduction of an innovation into a system. In this study the passage of the school reorganization law by the Iowa state legislature in 1953 is considered to be the initial development of school reorganization. The acceptance of school reorganization occurs when two or more school districts have merged. The rate of adoption, therefore, is the time lapse between the passage of the law in 1953 and the merger of two or more school districts.

The Pearson Product Moment Correlation Coefficient was used to test for significant correlation among the sub-variables of size, complexity, formalization, and financial state. The stepwise forward regression technique was used to test for prediction of rate of adoption.

The findings of the study show no significant correlations between the sub-variables representing size and formalization. There are highly significant interrelationships among the sub-variables representing complexity. Of the nine sub-variables

used to represent financial state, thirteen of the thirty-six intercorrelations were significant. The sub-variables that were highly correlated were instructional costs, transportation costs, operation of plant, maintenance, general fund levy in dollars and fixed costs.

The stepwise forward regression technique produced a prediction model for rate of adoption based on variables of organizational structure alone. This model indicates the greater the enrollment in grades 10-12 and the lower the enrollment in grades 1-3 the more rapid the rate of adoption of school reorganization will occur with approximately 13% of the variation in the rate of adoption explained. Utilizing both organizational structure and financial state the stepwise forward regression technique produced a prediction model for rate of adoption that indicates the lower the expense of maintenance, the greater the enrollment in grades 10-12, the lower the enrollment in grades 1-3 the more rapid the rate of school reorganization will occur with about 19% of the variation in rate of adoption explained.

In related findings pertinent to the hypotheses tested in the study a Pearson Product Moment Correlation Coefficient was used to test whether or not there were significant intercorrelations between the rate of adoption of school reorganization and the variables that constituted organizational structure and financial state. There were none. The intercorrelations, except for rate of adoption with geographical area and rate of adoption with

maintenance, were negative intercorrelations. These negative intercorrelations indicate that if a school district delayed adoption of school reorganization then there were fewer buildings in the district, fewer teachers and students in the district, and greater costs in salaries, instruction, transportation, operation of plant, and general fund levy in dollars. The positive intercorrelations indicate that if a school district adopted school reorganization early then the school district was larger in geographical area and had lower maintenance costs.

The study indicates that there is a relationship between organizational structure and the rate of adoption of school reorganization by school districts. The study also demonstrates that specific characteristics, those related to complexity, effect rate of adoption of school reorganization. The financial state of the school district is also related to the adoption of school reorganization. The financial state effects the rate of adoption of school reorganization more so than organizational structure alone.

This study implies organizational structure and financial state, neither necessarily associated with governance, can predict change and change that is associated with the total restructuring of school systems. The study indicates there is a level where reorganization of a system becomes a favorable option whether mandated or not.

BIBLIOGRAPHY

Carlson, Richard O. Adoption of educational innovations. In The Center for the Advanced Study of Educational Administration. Eugene, Ore.: University of Oregon, 1965.

Champion, Dean J. The sociology of education. New York: McGraw-Hill Book Company.

Chin, Robert and Kenneth D. Benne. General strategies for effecting changes in human systems. In The Planning of Change. Edited by Warren G. Bennis, Kenneth D. Benne, Robert Chin, and Kenneth E. Corey. New York: Holt, Rinehart, and Winston, 1976.

Rogers Everett M. and F. Floyd Shoemaker. Communication of innovations: a cross-cultural approach. New York: Free Press, 1971.